PIREP Education

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PIREP Education

- **Overview**
- Local nature of flight training
  - XC time
  - Habits and Decision Making
    - PIREP Form / Practice
- FRAT – Flight Risk Assessment Tool
- PIREP as Situational Awareness
- PTS or the new ACS
- Teaching Tools

Local Nature of Flight Training

- Commercial Pilot
  - 50 hours XC flight time
    - About 20% of the 250 total under Part 61
    - About 27% under Part 141 (varies with total hours of the program)
  - Most training occurs within 30nm of the airport
    - Radar products are convenient, quick, and current

Habits and Decision Making

- Typically a syllabus of training (Training Course Outline) drives subject areas of ground training
  - Also dictates flight training
- TCO's tend to be driven by regulations and minimums
- 14 CFR FAR Part 61
  - PVT, 61.105, "procurement and use aeronautical weather reports and forecasts" and "How to obtain information on…weather reports and forecasts.."
  - Instrument, 61.65, "procurement and use of aviation weather reports and forecasts and the elements of forecasting weather trends based on that information and personal observation of weather conditions"

Habits and Decision Making

- Commercial, 61.125 "Meteorology to include recognition of critical weather situations, windshear recognition and avoidance, and the use of aeronautical weather reports and forecasts"
- Practical Test Standards
  - Private, Task C lists PIREP
  - Instrument, Task B lists Pilot and Radar Reports
  - Commercial, Task C lists PIREP
  - Not a special emphasis area in any of the PTS

ACS

PVT

I. Preflight Preparation

Task	*Task C. Weather Information*
References	14 CFR part 91; FAA-H-8083-25; AC 00-6, AC 00-45; AIM
Objective	To determine that the applicant exhibits satisfactory knowledge, risk management, and skills associated with weather information for a flight under VFR.
Knowledge	The applicant demonstrates understanding of:
PA.I.C.K1	1. Acceptable sources of weather data for flight planning purposes.
PA.I.C.K2	2. Weather products required for preflight planning and en route operations.
PA.I.C.K3	3. Current and forecast weather for departure, en route and arrival phases of flight.
PA.I.C.K4	4. Meteorology applicable to the airport, local area, departure, en route, alternate, and destination of a VFR flight in Visual Meteorological Conditions (VMC) to include expected climate and hazardous conditions such as:
PA.I.C.K4a	a. Atmospheric composition and stability
PA.I.C.K4b	b. Wind (e.g. crosswind, tailwind, wind shear, etc.)
PA.I.C.K4c	c. Temperature
PA.I.C.K4d	d. Moisture/precipitation
PA.I.C.K4e	e. Weather system formation, including air masses and fronts
PA.I.C.K4f	f. Clouds
PA.I.C.K4g	g. Turbulence
PA.I.C.K4h	h. Thunderstorms
PA.I.C.K4i	i. Icing and freezing level information
PA.I.C.K4j	j. Fog
PA.I.C.K4k	k. Frost
PA.I.C.K4l	l. METARs and TAFs
PA.I.C.K4m	m. Weather related charts
PA.I.C.K4n	n. Weather advisories
PA.I.C.K4o	o. PIREPs
PA.I.C.K5	5. En route weather resources.
PA.I.C.K6	6. Cockpit displays of digital weather and aeronautical information.
PA.I.C.K7	7. Seasonal weather phenomena.
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
PA.I.C.R1	1. Factors involved in determining a valid go/no-go decision.
PA.I.C.R2	2. Dynamic weather affecting flight.
PA.I.C.R3	3. The limitations of weather equipment.
PA.I.C.R4	4. The limitations of aviation weather reports and forecasts.
PA.I.C.R5	5. The limitations of inflight aviation weather resources.
PA.I.C.R6	6. Identification of alternate airports along the intended route of flight and circumstances that would make diversion prudent.
PA.I.C.R7	7. Identification of weather conditions that may increase or reduce risk for the planned flight.
PA.I.C.R8	8. Establishing personal weather minimums based on the parameters of the flight (e.g. ceilings, visibility, cross-wind component, etc.), and determining when existing and/or forecast weather conditions exceed these minimums.
Skills	The applicant demonstrates the ability to:
PA.I.C.S1	1. Use available aviation weather resources to obtain an adequate weather briefing.
PA.I.C.S2	2. Correlate weather information to determine alternate requirements.

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I. Preflight Preparation

Task	*Task B. Weather Information*
References	14 CFR parts 61, 91; FAA-H-8083-2, FAA-H-8083-15; AC 00-6; AC 00-45, AIM
Objective	To determine the applicant exhibits satisfactory knowledge, risk management, and skills associated with obtaining, understanding, and applying weather information for a flight under IFR.
Knowledge	The applicant demonstrates understanding of:
IR.I.B.K1	1. Current and forecast weather for departure, en route, and arrival.
IR.I.B.K2	2. Meteorology to include:
IR.I.B.K2a	a. Weather system formation, including air masses and fronts
IR.I.B.K2b	b. Cloud types and hazards
IR.I.B.K2c	c. Turbulence
IR.I.B.K2d	d. Thunderstorms and microbursts
IR.I.B.K2e	e. Fog
IR.I.B.K2f	f. Types and hazards of icing to include frost
IR.I.B.K2g	g. Atmosphere/temperature
IR.I.B.K2h	h. Wind (e.g., crosswind, tailwind, wind shear, etc.)
IR.I.B.K2i	i. Moisture/precipitation
IR.I.B.K3	3. En route weather resources.
Risk Management	The applicant demonstrates the ability to identify, assess and mitigate risks, encompassing:
IR.I.B.R1	1. The limitations of aviation weather reports and forecasts.
IR.I.B.R2	2. The limitations of inflight aviation weather resources.
IR.I.B.R3	3. Identification of alternate airports along the intended route of flight and circumstances that would make diversion prudent.
IR.I.B.R4	4. Hazardous weather conditions that may affect the planned flight.
IR.I.B.R5	5. Known or forecast icing conditions.
Skills	The applicant demonstrates the ability to:
IR.I.B.S1	1. Use available aviation weather resources to obtain an adequate weather briefing.
IR.I.B.S2	2. Correlate weather information to determine if an alternate is required and ensure the selected alternate airport meets regulatory requirements.
IR.I.B.S3	3. Correlate weather information to make a competent go/no-go decision.
IR.I.B.S4	4. Obtain weather during flight.

Habits and Decision Making

- PIREP's in Flight Training
  - The local nature of flight training isn't conducive to a lot of formal PIREP's
  - METAR and Radar Products dominate
  - PIREP is not specifically regulatory
  - It's in the PTS so students are made aware of them and probably encouraged
  - Students are hesitant to contact FAA sources if it's not required

- To bring about a whole scale change
  - Needs to be part of a routine flight
  - Inculcated as a part of Situational Awareness
  - Inculcated as part of the Decision Making process of a flight

PIREP as Situational Awareness

- Emphasis is given in flight training to Situational Awareness
  - This certainly includes weather
  - Not just en route weather
  - Incorporation of PIREP as part of Preflight and Postflight might increase participation
- In a AOPA article by Kathy Yodice, May 11, 2015, The FAA cited the availability of a PIREP as evidence
  - It was determined the airman should have know of adverse weather conditions
  - It was an instructional flight, instrument training, they had an icing issue
  - These were informal PIREP's given by other airman over the radio

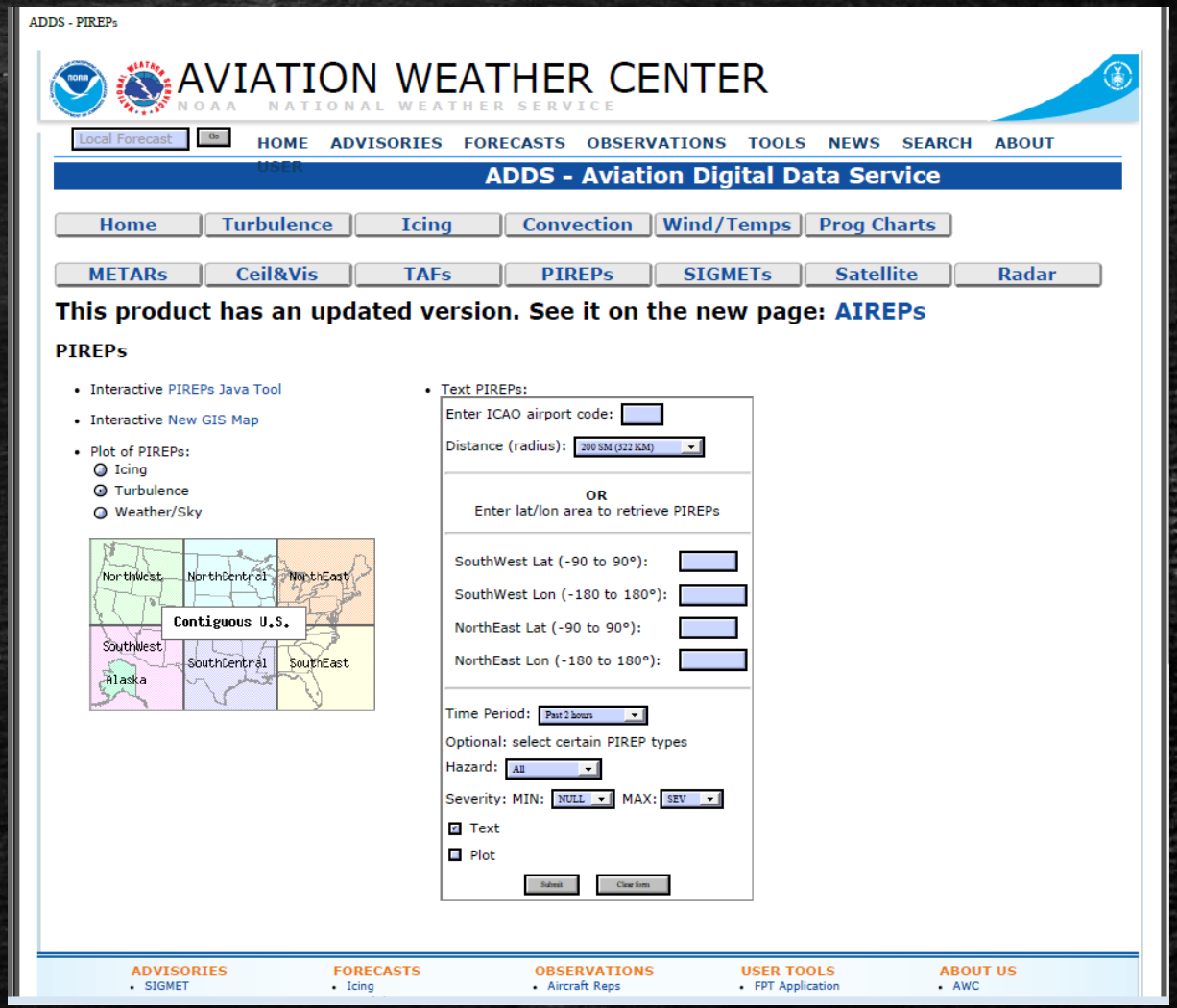
FRAT
Flight Risk Assessment Tool

≤12	No unusual hazards, follow the normal personal minimums and SOPs.
13-23	Some what riskier than a normal flight, consider alternatives, check with a chief.
≥24	Much higher risk, consult a chief, give consideration to canceling the flight.

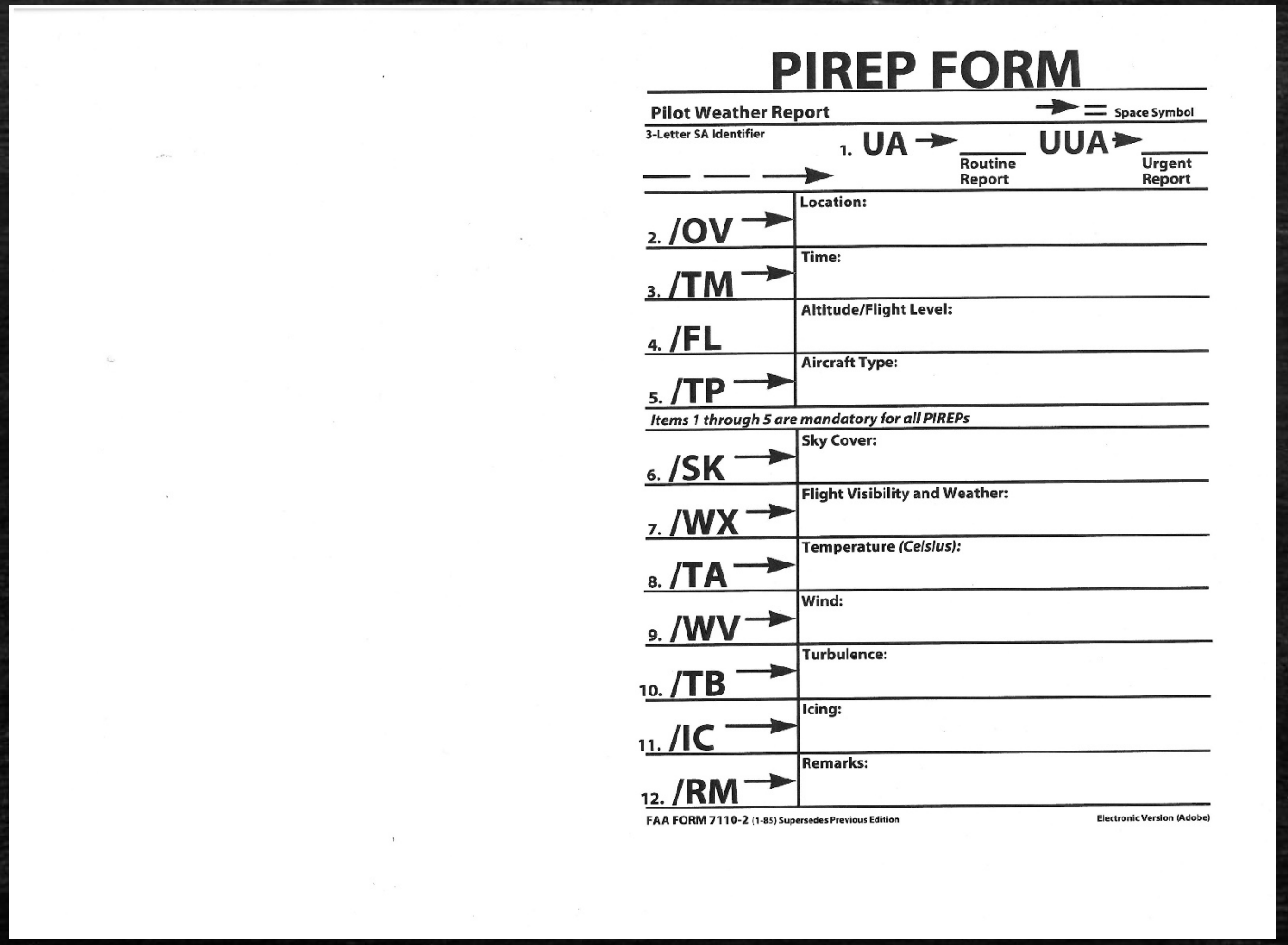
Risk	1	2	3	4
Crew	Instructor and Pilot	Two Pilots	Instructor and Student Pilot	Solo Pilot
Time	Day		Night	
Rest	> 7 hours	5 - 7 hours	3 - 5 hours	< 3 hours
Food	< 4 hours	4 - 6 hours	6 - 8 hours	> 8 hours
Ceiling	> 5000	2600 - 5000	1000 - 2500	< 1000
Visibility	≥ 10 SM	6 - 9 SM	4 - 5 SM	≤ 3 SM
X-W Dept	0 - 5 kts	6 - 10 kts	11 - 15 kts	16 - 20 kts
X-W Arrival	0 - 5 kts	6 - 10 kts	11 - 15 kts	16 - 20 kts

Teaching Tools

- Air Safety Foundation



Teaching Tools



PIREP FORM

Pilot Weather Report → = Space Symbol

3-Letter SA Identifier

1. UA → _____ Routine Report UUA → _____ Urgent Report

2. /OV →	Location:
3. /TM →	Time:
4. /FL	Altitude/Flight Level:
5. /TP →	Aircraft Type:

Items 1 through 5 are mandatory for all PIREPs

6. /SK →	Sky Cover:
7. /WX →	Flight Visibility and Weather:
8. /TA →	Temperature *(Celsius)*:
9. /WV →	Wind:
10. /TB →	Turbulence:
11. /IC →	Icing:
12. /RM →	Remarks:

FAA FORM 7110-2 (1-85) Supersedes Previous Edition Electronic Version (Adobe)